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Title : Diving and activity patterns of juvenile Steller sea lions (Eumetopias jubatus)

Category : Behavior

Student : M.A./M.S.

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Abstract : One potential cause of the ongoing Steller sea lion (SSL) decline is reduced juvenile survival, possibly due to difficulty acquiring sufficient prey resources. To understand if juvenile access to prey may be limited, we must first have information on their behavior, and on how that behavior varies by age-class and region. To do this, we examined diving and activity budget information from 11 young-of-year and 4 yearling animals. We deployed SMRU Satellite Relay Data Loggers between November 2001 and March 2003 in the central Aleutian Islands (CAI) and Gulf of Alaska (GOA). To date, we have recovered behavioral data for 1038 animal-days.

We predicted that juveniles should exhibit increasing trends in proportion of time-at-sea spent diving, dive duration and depth between 9-12 months of age. During this period, five of six young-of-year monitored in CAI and one of five in GOA showed such significant increasing trends. Yearlings monitored in CAI (n=2) and GOA (n=2) generally dove longer and deeper than did young-of-year, but there was little effect of age on their diving behavior. These differences suggest that age is not the primary factor influencing the diving patterns of all young SSLs. We also examined diurnal activity pattern, which revealed that most juveniles dove deeper, longer and more frequently at night than during the day. However, two yearlings monitored in GOA did not follow this pattern, one exhibiting daytime focus and another no focus. This may indicate the difference between foraging and non-foraging, or among different prey selections. Since most juveniles spent <50% the day at-sea, it seems unlikely that these animals, if in fact foraging, are time-limited. Observed differences in the diving patterns among young SSLs suggest that behavior may be influenced by variation in factors associated with increased diving activity, such as dispersal, haulout selection and environmental conditions.